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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/698,204	08/14/96	KONUMA T	0756-1553

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EXAMINER	
PARKER,K	
ART UNIT	**PAPER NUMBER**
2871	

DATE MAILED: 12/15/99

Please find below and/or attached an Office communication concerning this application or pr ceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/698,204	Applicant(s) Konuma
	Examiner Kenneth Parker	Group Art Unit 2871

☒ Responsive to communication(s) filed on *Sep 30, 1999*.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *13-15 and 18-49* is/are pending in the application.

Of the above, claim(s) *23 and 47-49* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *13-15, 18-22, and 24-46* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 25-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mawatari et al 5200847 in view of Niki, U.S. patent # 5,278,682.

Mawatari et al discloses a liquid crystal device with a first substrate, second substrate, active devices in an active display region, driver circuits, and a sealing member, which at least partly covers the circuits, seals the liquid crystal, and which may optionally completely cover the circuits (spec). The right side is shown with the edges of the sealant and substrates at least substantially aligned. The circuits on the substrate have a sealant between themselves and a cover glass.

The sealant being a UV curable adhesive was a conventional practice which offers the benefit of enabling selection of the time of curing and patterning, the circuits on both the driving section formed using the same processes as those in the display section. The use of common processes saves cost and the UV curing enables low cost simple fabrication. Therefore, it would have been obvious, in the device of Mawatari et al, to use a UV curable adhesive to enable patterning and simple low cost fabrication, and to use common processes for both circuit regions

to save cost. The use of a fill port at the aligned edges was disclosed by Niki, stating the advantage of enabling filing without immersing the substrates in the reservoir (abstract). Therefore it would have been obvious, in the device of Mawatari I et al, to employ a fill port at the aligned sides (those without drive circuits) for the benefit of avoiding immersion of the substrates. The use of silver paste to connect the electrodes was conventional, and would have been obvious for that reason. The use of sealing resins was conventional in semiconductor devices, and considered to be obvious for that reason.

Claims 13-15, 18-22, and 24-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al, U.S. Patent # 5076667 in view of Niki, U.S. patent # 5,278,682.

Stewart discloses a liquid crystal device with first substrate, and active matrix substrate with pixels in a matrix, driver circuits comprising TFTS, second substrate, liquid crystal between the substrates a resin material covering the driver circuits, and a sealer around the liquid crystal and driver circuits. Not clearly disclosed is the presence of an "inlet", however, the materials must have been introduced to the device, so somewhere, on something there must have been an inlet, or it would have been obvious to employ an inlet to enable control of the introduction of the materials.

The use of a fill port at the aligned edges was disclosed by Niki, stating the advantage of enabling filing without immersing the substrates in the reservoir (abstract). Although Stewart shows a device with circuits on both sides, it was well known that the drivers could be

functionally equivalently placed on two sides, which would have been obvious for that reason. Therefore it would have been obvious, in the device of Stewart, to employ a fill port at the aligned sides with two sides having the circuits, for the benefit of avoiding immersion of the substrates. It would have been further obvious to use the side with out the circuit because the sides with the circuit have a material enclosed in a sealant which would have been an obstruction from putting in a port there.

Providing with active matrix as amorphous silicon and the driver crystalline was well established, as the driver section is often the only one that requires the higher speed requiring crystalline silicon. The employment of and MIM diode was well known in the art as a lower cost alternative to tft's, and epoxy and UV curing resins is essentially a complete list of the conventionally use materials, used for low cost, ease of assembly or the ability to pattern. It was well known to employ spacers in the sealing materials on liquid crystal devices to enable even spacing without stress forces related to omitting them. The use of silver paste to connect the electrodes was conventional, and would have been obvious for that reason. The use of sealing resins was conventional in semiconductor devices, and considered to be obvious for that reason. Further it would have been obvious to replace the low dielectric gas with a resin, as resin were well known for having a low dielectric, and as described above, were conventionally used with semiconductor devices.

Election/Restriction

Applicant's election without traverse of the group of figure 6 in Paper No. 28 is acknowledged.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. The sole argument that the silver solder makes claims patentable is not agreed with, as it has been found that the number of references referring to it's use was so numerous that it has to be considered conventional. A few references are cited which provide evidence of this, however an arbitrarily large number are available. The issue of the use of a fill port not over the driver circuits was not agreed with, because many of the structures which used drive circuits such as Stewart and Mawatari required that the fill ports be put elsewhere.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

a shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Parker whose telephone number is (703) 305-6202.

The fax phone number for this Group is (703) 308-7726.

Any inquiry of a general nature or relating to the status of this application or preceding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

December 6, 1999

Kenneth Parker
Patent Examiner
Group Art Unit 2871